Please amend Claims 1, 6-8, 11, 23, 50 and 56-58. Amendments to the claims are indicated in the attached "Marked Up Version of Amendments" (pages ii - vii).

1. (Amended) A method for determining whether a biomolecule inhibits infection by a pathogen cell, comprising the steps of:

a) introducing into a test animal and into a control animal a pathogen cell comprising an exogenous regulable gene encoding the biomolecule;

b) regulating expression of the gene to produce the biomolecule in the cell in the test animal but not in the cell in the control animal; and

c) monitoring said test and control animals for signs of infection;

whereby observing fewer or less severe signs of infection in said test animal compared to signs of infection in the control animal indicates that the biomolecule inhibits infection by the pathogen cell.

6. (Amended) A method for determining whether a biomolecule inhibits infection by a pathogen cell, comprising the steps of:

a) constructing a pathogen cell comprising an exogenous regulable gene encoding the biomolecule;

b) introducing said pathogen cell into a test animal and a control animal;

c) regulating expression of the gene to produce the biomolecule in the pathogen cell in the test animal but not in the cell in the control animal; and

d) monitoring said test and control animals for signs of infection;

whereby observing fewer or less severe signs of infection in said test animal compared to signs of infection in the control animal indicates that the biomolecule inhibits infection by the pathogen cell.

7. (Amended) A method for determining whether a biomolecule is a biomolecular inhibitor of growth of cells, comprising:

a) introducing into one or more test animals and into one or more suitable control animals cells having a regulable gene encoding a biomolecule;

b) regulating, in the test animals, expression of the gene to allow production of the biomolecule; and

c) monitoring said test animals for growth of the cells;

wherein observing fewer of the cells or a slower growth rate of the cells in said test animals compared to the number of the cells or growth rate in suitable control animals indicates that the biomolecule is a biomolecular inhibitor of growth of the cells.

8. (Amended) A method for assessing whether a biomolecule is a biomolecular inhibitor of growth of cells in a host mammal comprising:

a) constructing cells having a regulable gene encoding the biomolecule;

b) introducing the cells into test animals and into suitable control animals;

c) regulating, in the test animals, expression of the regulable gene to produce the biomolecule; and

d) monitoring the test animals and control animals for growth of the cells;

wherein observing less growth of the cells in the test animals than in the control animals indicates that the biomolecule is a biomolecular inhibitor of growth of the cells.

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11. (Amended) A method for determining whether a target component of a cell is essential for growth of said cell, comprising:

a) in cells comprising a biomolecule and a target cell component, wherein the biomolecule is a biomolecular binder of the target cell component, and wherein a gene encoding the biomolecule is regulable, regulating expression of the gene to produce the biomolecule;

b) monitoring growth of the cells in culture relative to growth of suitable control cells, whereby, if growth is decreased in the cells compared to growth of suitable control cells, then the biomolecule is a biomolecular inhibitor of growth of the cells;

c) introducing into one or more test animals cells in which growth can be decreased compared to the control cells as determined in step b);

d) regulating expression of the gene to produce the biomolecular inhibitor of growth in the introduced cells; and

e) monitoring said test animals for inhibition of the growth of the cells;

wherein observing fewer cells or slower growth of cells in said test animals compared to cells or growth of cells, respectively, in suitable control animals indicates that the target component of said cell is essential for growth of said cell.

23. (Amended) A method for identifying a compound which is a candidate for producing a phenotypic effect in a cell, said method comprising the steps of:

a) constructing a cell comprising an exogenous regulable gene which encodes a biomolecule;

b) introducing said cell into an animal;

c) regulating expression of the gene to produce the biomolecule in the cell;

d) monitoring said cell in the animal for the phenotypic effect; and

e) identifying, if the biomolecule caused the phenotypic effect, one or more compounds that competitively bind to a target cell component, whereby if the compound competitively binds to the target cell component, then the compound is a candidate for producing the phenotypic effect.

50. (Amended) A method for identifying a compound which is a candidate for producing a phenotypic effect on a first cell, comprising:

a) identifying a biomolecular binder of an isolated target cell component of the first cell;

b) constructing a second cell comprising the target cell component and an exogenous, regulable gene which encodes the biomolecular binder;

c) introducing the second cell into one or more animals;

d) regulating expression of the gene, thereby producing the biomolecular binder in the second cell;

e) monitoring the second cell in the animal(s) for the phenotypic effect; and

f) identifying, if the biomolecular binder caused the phenotypic effect in the second cell, one or more compounds that compete with the biomolecular binder for binding to the target cell component;

whereby, if a compound competes with the biomolecular binder for binding to the target cell component, then the compound is a candidate for producing the phenotypic effect on the first cell.

56. (Amended) A method for identifying one or more compounds that bind to a target cell component in a pathogen and are candidates for inhibiting infection of a mammal by the pathogen comprising:

a) constructing a pathogen comprising a regulable gene encoding a biomolecule which binds to the target cell component;

b) infecting one or more test animals with the constructed pathogen, and one or more control animals with the constructed pathogen or with a control pathogen;

c) regulating expression of the regulable gene in the test animals to produce the biomolecule;

d) monitoring the test animals and the control animals for signs of infection, wherein observing fewer or less severe signs of infection in the test animals than in the control animals indicates that the biomolecule is a biomolecular inhibitor of infection; and

e) identifying one or more compounds that compete with the biomolecular inhibitor of infection for binding to the target cell component in a competitive binding assay;

whereby, if a compound competes with the biomolecular inhibitor of infection for binding to the target cell component, then the compound is a candidate for binding to a

target cell component in a pathogen and inhibiting infection of a mammal by the pathogen.

57. (Amended) A method for identifying one or more compounds that are candidates for binding to a target cell component in a pathogen and inhibiting infection of a mammal by the pathogen, comprising:

a) constructing a pathogen comprising a regulable gene encoding a biomolecule which binds to the target cell component;

b) regulating expression of the gene in a culture of constructed pathogen cells, thereby producing the biomolecule in the constructed pathogen cells;

c) monitoring growth of the constructed pathogen cells in culture, relative to growth of suitable control cells, whereby, if growth is decreased in the constructed pathogen cells, compared to growth of the control cells, then the biomolecule is a biomolecular inhibitor of growth;

d) infecting one or more test animals with the constructed pathogen, and one or more control animals with the constructed pathogen or with a control pathogen;

e) regulating expression of the regulable gene in the test animals, thereby producing the biomolecule;

f) monitoring the test animals and the control animals for signs of infection, wherein observing fewer or less severe signs of infection in the test animals than in the control animals indicates that the biomolecule is a biomolecular inhibitor of infection by the pathogen; and

g) identifying one or more compounds that compete with the biomolecular inhibitor of infection for binding to the target cell component;

whereby, if a compound competes with the biomolecular inhibitor of infection for binding to the target cell component, then the compound is a candidate for binding to the target cell component in the pathogen and inhibiting infection of the mammal by the pathogen.

58. (Amended) A method for identifying a biomolecular inhibitor of infection by a pathogen, comprising:

a) in pathogen cells comprising a biomolecule and a cell component, wherein the biomolecule is a biomolecular binder of the cell component, and expression of the gene encoding the biomolecule is regulable, regulating expression of the gene, thereby producing the biomolecule;

b) monitoring growth of the pathogen cells in culture relative to growth of control cells, whereby, if growth is decreased in the pathogen cells compared to growth of the control cells, then the biomolecule is a biomolecular inhibitor of growth of the pathogen;

B1 cont'd c) infecting one or more test animals and one or more control animals with the pathogen cells in which growth was decreased compared to the control cells in step b);

d) regulating expression of the gene in the test animals, thereby producing the biomolecule; and

e) monitoring said test animals and control animals for signs of infection;

wherein observing fewer or less severe signs of infection in said test animals compared to signs of infection in the control animals indicates that the biomolecule is a biomolecular inhibitor of infection by the pathogen.

REMARKS

The written description has been amended on page 40, line 5 to insert a SEQ ID NO. No new matter has been added.

Claims 3-5, 13-22, 28-49, 55 and 59-66 have been canceled. Claims 1, 6-8, 11, 23, 50 and 56-58 have been amended.